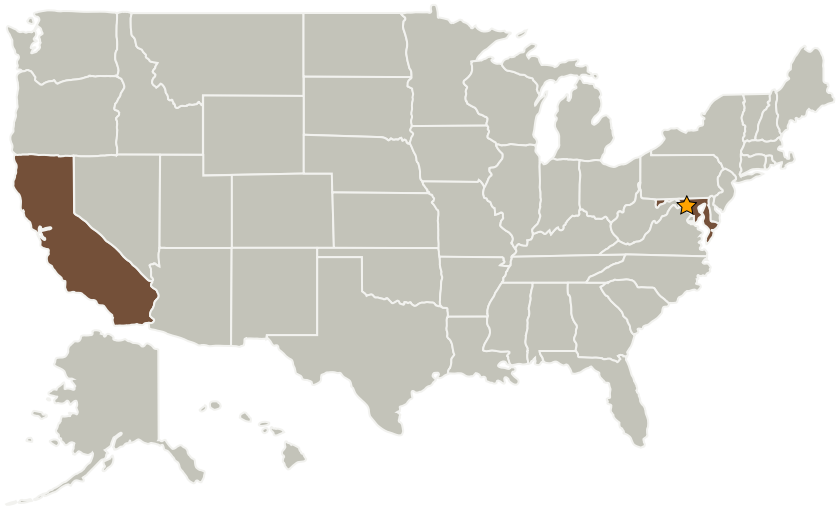
Low Power Mass Spectrometer employing TOF, Phase I

Completed Technology Project (2006 - 2006)

Project Introduction

A low power Mass Spectrometer employing multiple time of flight circuits for parallel processing is possible with a new innovation in design of the Time of flight circuit. The novel scheme uses gate delays to measure time of flight and calibrates the gate delays using a precise clock. Sensor weight is about 1Kg and power consumption is 1.5W.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland
Space Instruments	Supporting Organization	Industry	Irvine, California

Primary U.S. Work Locations	
California	Maryland

Low Power Mass Spectrometer employing TOF, Phase I

Table of Contents

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Low Power Mass Spectrometer employing TOF, Phase I

Completed Technology Project (2006 - 2006)

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Technology Areas

Primary:

- TX05 Communications, Navigation, and Orbital Debris Tracking and Characterization Systems
  - TX05.4 Network Provided Position, Navigation, and Timing
    - TX05.4.1 Timekeeping and Time Distribution